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## Patent Abstracts of Japan

PUBLICATION NUMBER : 02062254  
PUBLICATION DATE : 02-03-90

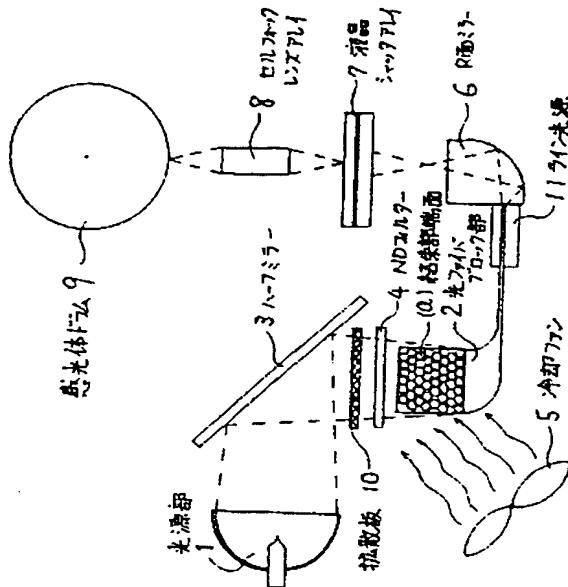
APPLICATION DATE : 29-08-88  
APPLICATION NUMBER : 63214438

APPLICANT : SEIKO EPSON CORP;

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INT.CL. : B41J 2/445

TITLE : LIQUID-CRYSTAL SHUTTER ARRAY  
HEAD



ABSTRACT : PURPOSE: To light having the uniform distribution of the amount of light, and to transmit light having no unevenness by interposing a diffuser panel into the optical path of a light source section and a liquid-crystal shutter array head, in which shutters are arrayed linearly and which selectively opens and closes and drives the shutters.

CONSTITUTION: Light from a point light source 1 is reflected from a hemispherical surface-shaped reflecting-plate inwall surface, and projected to a bundling- section end face (a) on the side facing the lamp of an optical fiber block section 2. A half mirror 3 bending light and transmitting infrared rays, an ND filter 4 for adjusting the amount of light, and a cooling fan 5 for cooling the bundling- section end face (a) are installed on its midway of an optical path. A diffuser panel 10 is interposed, and the light source is changed into a uniform line light source having no unevenness in the amount of light. The material of the diffuser panel may be composed of glass or plastics. White board glass in thickness from 0.1mm to 10mm is sandblasted by sand from #100 to #5,000, and size thereof may be brought to size covering the whole bundling-section end face of a fiber bundle.

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